THE

HORTICULTURAL REGISTER.

AND

GARDENER'S MAGAZINE.

DECEMBER 1, 1836.

ART. I. — *Remarks on the Use of Soils in Growth of Plants.* — *By* XIOPE.

A KNOWLEDGE of the substances necessary to the healthy growth of plants, and of the exact quality and quantity of these substances, constitutes the greatest acme of perfection in cultivation. To arrive at this, it were necessary that the operator should be more or less acquainted with the physiological characters of the individual plant, with its peculiar economy, with its facility of absorption and extent of appropriation of other and heterogeneous bodies to its nutriment. That plants are capable of receiving into their systems, not only nutritious, but highly deleterious substances, such as proper manures, or active and deadly poisons, is well known and familiarly illustrated by the ingenious experiments of Marcet, and by the ordinary operations of the garden and the farm. This experimentalist ascertained that the spongioles of the roots were capable of absorbing equally, finely comminuted particles of metallic poisons, in the form of solutions, and of more bland and harmless vegetable bodies: that plants could be slowly killed by the introduction of arsenic into their internal structures, as are animals when it is introduced into their stomachs.

On soils, and in situations which have become greatly injured by the action of powerful acids, or of metallic combinations, or which are too highly impregnated with certain substances, which in minute quantities might have even proved excellent, or at least, good manures and stimulants, it is not uncommon to meet with a crop of sickly, starved and stinted plants. The great effort of nature to ripen

the seed, and to produce that system of operations necessary to the future existence of the individual, is mainly observable in the undue proportion of these organs over the other and subservient. The crop, either of natural or artificial growth, bears all the evidences of the condition of the soil. It breathes and imbibes a poisonous atmosphere. The few and remaining essentials to its increase and existence, are tainted with the deadly and destructive preponderant qualities of the situation: nor will the soil bear a healthy and vigorous growth, until it is renewed and changed by the ordinary means of Nature, or by art.

Light and moisture seem essential to most vegetables. Without these, with only a few exceptions, no plants can survive. With these two simple provisions, many of the most important functions, are carried on and completed. A Hyacinth will produce strong, vigorous foliage, brilliant and fragrant flowers, large and healthy fibres, if supplied with simple water and bright light. It exhausts itself, however, by so unnatural a situation and manner of developement. Seeds will vegetate on animal, vegetable or mineral bodies, if supplied with moisture. Many plants thrive in situations scarcely differing in an apparent degree from the water cultivation of the hyacinth. Some of the finest orchideæ of our own country are thus found in sphagnous swamps, thriving as it were only on the water absorbed by *Sphagnum palustræ*, and other mosses.

It is evident, however, on further consideration, that this apparent condition is not the real. Minute and highly nutritive substances are continually flowing into these swamps, and such localities where these aquatic mosses grow, which contribute in a very great degree to the healthy condition of these plants.

Thus almost any plant not decidedly appropriate to arid and dessicated situations, as sandy plains and rocks, may be made to accommodate themselves to the simple imbibition of water, if the roots are provided with some spongy body into which to insinuate themselves. Hence the fact that "coarse moss of any kind" packed tight in a pot may be substituted for soil in parlor cultivation. Our experiments have proved it a miserably poor substitute. The slow tendency to decay in the moss, serves to preserve the roots, which otherwise would rot in so unnatural a situation. A few flowers may be produced, but they will not equal those in whose production good soil has been employed. This remark may not however apply altogether to such aquat-

ics as Calla Æthiopica, but we surmise that even this decidedly water plant, would amply repay the allowance of a stronger stimulus. — With us Mimulus rivularis var. *Smithii*, barely survived two months of such treatment. For the manner of such cultivation, we refer to the extract on page 411, of November No. of this Register. We recommend a few experiments of the theory to the lovers of new things, and to the promoters of floricultural science.

Art. II. — *On the Culture of Cape Bulbs.*

The Gladiolus — Ixia — Watsonia, — and many other bulbous plants included under the natural order Iridiæ, may be successfully cultivated in the open air, if planted in a light sandy soil, under the protection of a wall or fence, having a southern aspect. Mr Sweet recommends planting them from five to eight inches deep, in beds composed of equal proportions of rich loam, peat and sand, and in severe weather they may be covered with old tan or dry litter, or protected by a mat; by this treatment they will flower much stronger than if grown in pots, and may be readily increased by offsets from the bulbs, or by seeds.

Bulbs that are grown in glasses, should be placed during the month of November, the glasses filled with water, which will require to be changed every three or four days, and the bulbs should be placed in as light and as airy a situation as possible, that they may not be drawn up weakly.

The Amaryllideæ are a beautiful and interesting tribe of plants, and add greatly to the attractions of the stove and green-house during the winter and spring months. Mr William Nicol, of Newick Park, a very successful cultivator of bulbous plants, has kindly furnished us with the following details of his practice : —

Although the varieties of the Amaryllis are very numerous, the hybrids are in many instances to be preferred, as they often surpass the originals in beauty, and are found to flower more freely. I have succeeded in obtaining beautiful hybrids from the following varieties, by transferring the pollen from

Amaryllis	rutila	to	Amaryllis	Johnsoni.
"	crocata	"		miniata.

Amaryllis	equestris	Amaryllis	vittata.
"	reticulata	"	Johnsoni.
"	Johnsoni	"	reginæ.
"	solandræflora	"	Johnsoni.
"	miniata	"	reginæ.
"	splendens	"	Johnsoni.
"	fulgida	"	vittata.
"	miniata	"	Johnsoni.
"	vittata	"	equestris.
"	Johnsoni	"	reticulata.
"	reticulata	"	vittata.
"	vittata	"	Johnsoni.
"	Johnsoni	"	equestris.
"	fulgida	"	Johnsoni.
"	psittacina	"	reticulota.

The seed should be collected as soon as ripe, sown in pots, and placed in a hot-bed. When the plants have produced two leaves, they should be potted singly into the smallest sized pots, taking care not to pot them too deep, but to leave the young bulbs on a level with the surface of the mould. They should be watered, and kept shaded in the hot-bed frame for a few days, and as soon as the bulbs recede from the surface, they should be repotted into large sixties, and occasionally shifted during the summer, until the plants are well rooted in twentyfour sized pots. By this treatment many of the young plants will flower the following spring.

The established plants I treat in the following manner: — as soon as they begin to shew flower, I stir the surface of the mould, and give as much water as will penetrate to the bottom of the pots. I then place them in the stove, and water them occasionally, as the plants may require. In a few days the flower stems advance considerably in height, the leaves shortly after make their appearance, and in a few weeks the plants are in flower.

When the flowers begin to fade, the flower stems should not be cut off, but be allowed to die down, for if cut while in a green state, it will cause the coats of the bulbs to decay. After the leaves have attained their growth, which may be known by their dropping down to the sides of the pots, and by the tips of the leaves beginning to turn yellow, the plants should be repotted, taking care to disturb the roots

as little as possible. They should then be placed in a hot-bed frame, and supplied with water sufficient to settle the mould, shading them with a mat until another set of leaves begins to be developed. They will now form embryo buds for the following season. The plants being established, should be gradually exposed to the sun and air, and as soon as the leaves have attained their full growth, water should be more sparingly applied. When the leaves have died down to the bulbs, the plants should be removed to a cool vinery or green-house, and if the bulbs feel firm, which may easily be known by pressing them with the finger and thumb, the watering may be gradually discontinued, and the plants be suffered to remain till they begin to shew buds, when the surface of the mould must be stirred as before directed, and the same treatment pursued.

The A. curvifolia, A. corusca, A. sarniensis, or Guernsey Lily, require the same treatment as the other varieties, and will, if properly managed, flower every year. There are several other varieties of the Amaryllis that do not root so freely as others; but if these are allowed to remain in pots, and be carefully watered, and judiciously treated, they will invariably flower in perfection.

In the management of the Amaryllidæ, and bulbs in general, it is of great importance that they be not over-watered, that the offsets be carefully detached, and that, in planting, the pots be sufficiently drained. The following compost may be advantageously employed, both for seedling and established plants: — three parts light turfy loam, two parts white sharp sand, and one part turfy peat.— *Mantell's Floriculture.*

Art. III. — *Turnip Rooted Cabbage.*

We received, a few days since, some vegetables of beautiful appearance, from Mr Moses Mann of Needham, under the name of *Kopf* or *Kohl Kolraben*, produced from seed received from Germany.

The shape of it, globular; about six inches in diameter; the color of one variety green, the other purple. Leaves commencing at the base of the globe on long petioles and encompassing it, and terminating with a tuft on top of the bulb.

The flavor of it, when cooked, equalled the beauty of its appear-

ance. It was quartered, and stripped of its thick fibrous rind, and boiled an hour and a half and seasoned with butter and salt. Its taste is similar to a fine turnip, but much superior. Mr Mann thought it resembled the flavor of the heart of a Savoy cabbage. We can confidently recommend this vegetable for general use, which though uncommon here, is well known in some parts of Europe, and is synonymous with Turnip Cabbage, or Turnip rooted Cabbage. M'Mahon thus describes it.—

"The Turnip Cabbage produces its bulb or protuberance, which appproaches to roundness, on the stem above ground, immediately under the leaves. It is eatable when young, and about the size of a tolerably large garden turnip. The bulb or protuberance, must be first stripped of its thick fibrous rind, and then it may be treated and used as a turnip. Some of their bulbs grow to twentythree inches in circumference, and weigh upwards of twelve pounds. The seeds may be sown, and the plants afterwards treated as you do cabbage, only that in earthing up the plants, when grown to a good size, you must be cautious not to cover the globular part, which is to be eaten. They are much more hardy than turnips, and in Europe are cultivated for the feeding of cows and sheep, as well as for table use: in either case they treat them as they do cabbages, or sow them like turnips, and afterwards hoe them out to proper distances."

From vol. vii. of the N. E. Farmer, page 62, we transcribe the following account:—"Mr Cornelius Cowing of Roxbury, has left at the New England Farmer Office a root of the Arabian Kohl Rabi, or Turnip Rooted Cabbage, which has a bulb, 17 inches in circumference.

This curious variety of cabbage is a native of Germany, where it is much cultivated. They take it up before winter sets in, and protect it like potatoes or turnips, for winter use. The produce is nearly the same as Swedish turnips, and the soil that suits the one, is equally good for the other. It may be either sown in drills, or raised in beds, and transplanted like cabbages: in this case the beds require to be made and sown in the preceding autumn. Two pounds of seed will prove a sufficiency of plants for one acre of ground. The stem is swollen like a bulb, and when divested of the leaves, may easily be mistaken for one. Hares are so fond of it, that on farms where these animals abound, the culture of this plant is found impracticable. Sir Thomas Tyrwhitt first introduced Kohl rabi from Germany.—

Messrs Gibbs & Co., seedsmen to the board of Agriculture, raised in one year, one ton and a quarter of the seed, and continue to supply the demands of the public for it, and for all other agricultural seeds of the best quality. 64 dr. of the bulbs of Kohl rabi afford 105 grains of nutritive matter."

It is sometimes called Turnip cabbage above ground to distinguish it from another species which produces its bulb below the surface, or Turnip Rooted Cabbage below ground. The last species is thus described: "It has an oblong thick root pretty much of the form of the winter radish, but very large, and is a valuable article to cultivate for cattle; as it produces with proper care, from twentyfive to thirty tons per acre. It is extremely hardy, and very seldom injured by frost, and would be an excellent sheep food in April, when the frosts are not over desperate. It merits attention from the farmer, and is frequently used for culinary purposes, in the same manner as the Turnip Cabbage. The top and sprouts make delicious greens in the spring." J. B.

Art. IV. — *Improvements in Cultivation.*

The following passages are extracted from an excellent Address before the Middlesex Agricultural Society, by Albert H. Nelson of Concord, published in the N. E. Farmer of the 16th ult. Most of the remarks here quoted, apply as well to Horticulture as to Agriculture, and deserve a place in every publication which has improvement in tillage for its object. T. G. F.

We may learn the principles of Farming [or Gardening] then, by study, and why in the name of common sense may we not study books? Why should we be obliged to grope along, to stumble on in the thick darkness which our ancestors exerted themselves successfully to dissipate, when we may walk firmly and surely, would we but open our eyes. To illustrate my meaning. A young man comes into possession of a farm composed entirely of light sandy soil. His predecessors have year by year, raised by dint of much labor, a small crop of burnt up hay, a small crop of potatoes, and a smaller crop of stinted corn. Now shall he toil on all his days, ploughing, sowing, and cropping the same fields in the same way, and with the same re-

sults, as did his ancestors? Or, would it not be far better for him to farm a little by book? To study the nature of calcareous and silicious soils, to learn the different effects and qualities of manure, to introduce the turnip and clover culture, and a rotation of crops; and thus, by the aid of a little science, double his produce and the value of his land at the same time? Shall he continue to cultivate certain articles without any regard to their adaptation to his soil, or shall he study the nature of the soil somewhat? Can there be a doubt as to what should be done? Our farmers work with their eyes wide open, I allow. They adopt improvements as fast as they are made in their neighborhood, so that they can see them; but they adopt *only* when they can see them. New modes of cultivation, and new articles of culture, are in this way gradually introduced. But they are introduced too slowly. The work does not go on fast enough. They do not keep up with the improvements of the age. There is much hesitation and doubt, after the time for hesitation and doubt has passed. The good old way, with all its imperfections, is adhered to in preference to a newer and better, merely because the one is old, and the other new. Our farmers have a thorough contempt for new things, and especially if promulgated by a book farmer, and in this way lose great advantages. Illustrations of this fact are abundant. How much writing, and argument, and persuasion it has cost to obtain for the mulberry, and the making of silk, their present partial and limited confidence. How slowly has the cultivation of Ruta Baga been progressing: and how much more slowly the raising of lucerne. How hard it is for people to give up keeping a little mountain of soil round each hill of corn: how hard to use the roller and cultivator: how hard to give up cross ploughing! or to illustrate this same feeling in a different way, it was forty years after Spinach was introduced into the gardens of the opulent, before it could be bought in Boston market: and I doubt not but that there are those present who now hear the name for the first time. The Rhubarb was twenty years in coming into favor: the Tomato, the best of all summer vegetables, nearly as long: and the Salsify is now hardly a regular marketable vegetable. While the Sea Kale of Great Britain has not been able to tempt a single cultivator, Head Lettuce as well known as it is, is seldom raised in the country, and the cauliflower more seldom still. "But the disgrace of being slow to receive valuable novelties, is not confined to our farmers and gardeners alone. The Medical Faculty of

Paris proscribed as poisonous the potato, one hundred years after that plant had raised millions of vigorous troops who under Marlborough had again and again beaten the finest armies of France.

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How few farmers there are that actually study the nature of soils and manures, and crops? How few make any improvements, save those they see instituted by their nearest circle of neighbors? All such they are willing to make. Now I ask, and the question contains the gist of the whole matter, why a man may not as well learn from the results of the neighbors' experiments and science when stated in a book, as when seen on a farm? Extend the same principle. Great men, practical men, in every part of the world, and for many years, have investigated the subject of agriculture, and have written on it: their plans and experiments, as well successful as otherwise, have been noted; experiments have been properly instituted. Now if a farmer may learn from a book written by his neighbor, may he not much more learn from this collected wisdom of the whole world? Is it not a fact, and may we not point to shining examples from the members of this society, that those who have studied books, and become book farmers, are the best farmers, and have the best and most productive farms? Being willing to learn from those men, as we all are, and thus from books second hand, and why are we not willing to go ourselves to the fountain head, and thus become pioneers in the cause?

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I have thus, gentlemen, stated some reasons why you should prosecute agriculture as a science, and have thus briefly noticed some of the modern improvements in that science, in order to induce in your minds the question "Why may we not accomplish what others have accomplished?" And I ask the question — why may you not? Who shall say that an American cannot do as much as an English farmer? Who but the American himself when he says he cares not for the science or the study of Agriculture, and that he spurns such learned words? He who adheres to old customs while every body about him is adopting newer and better, will fall far behind the age. And that farmer who continues to farm as did his ancestors, who entertains a sovereign contempt for scientific cultivation, will find himself every day growing poorer and poorer, because his more enlightened neighbors are every day growing richer and richer. I know

that to treat farming as a science, to adopt the late improvements, or at least many of them, calls for a considerable outlay of money. But the investment is sure: the returns must be enormous for the amount expended: and they will themselves furnish the means of further improvement. There are multitudes of examples of what may be done in this way. Mr Coke of Norfolk, England, furnishes the most illustrious instance. Some forty years ago, he inherited a vast landed estate, the increase of which was then, $8000 per annum. Being an active and intelligent man, he introduced the Tullian system, which consists in a frequent rotation of crops, and in sowing in drills, and in his life time, by the plough and a proper succession of plants alone, he increased the income of his estate to $200,000; or, in other words he increased its value 24 times. Of him it was said, that "he disdained to hide his head beneath a coronet." Something like this every man may do. If we have not thousands to double every few years, we have hundreds or tens; and the smaller the sum, the more the need of this result. The means are in every man's hands. There is no necromancy in the case; no peculiar skill is needed. Diligently use the faculties God has given us, and the advantages which our institutions secure, and the whole is accomplished.

We in New England have already done much. Our hills are rough and rocky and sterile; our winters are long and tempestuous; our climate is inclement and unfavorable; but our arms have been nervous and our hearts strong, and the rough sterile fields have become gardens. The lines fell in rough spots to our fathers, but they have been made very pleasant homes. The founders of New England had difficulties to contend against, but they have been overcome. Just two hundred years ago, in 1836, a gentleman writing to England of the soil of this country says, "after five or six years it grows barren beyond belief; and whereas after, the land in England proves fertile for grass, this yields none at all, but like the land about Dunstable, puts on the face of winter in the time of summer." * * * "For the present we make a shift to live — but hereafter, when our numbers do increase, and the fertility of the soil doth decrease, if God discovers not means to enrich the land, what shall become of us, I will not determine — but it is probable we must either disband ourselves, like beasts straitened in their pasture, and so be liable to destruction from the natives (I mean the Pequods,) or else continuing together be made the subject of some fearful famine and the misery

that accompanieth it." How great the change! Two hundred years ago, the 10,000 inhabitants of New England feared a famine! Now more than two and a half millions are supported in the same country, and the energies of the land are not developed to the hundredth part! We apprehend no famine now: we fear not the sterility of the soil: we war not with the Pequods: our midnight slumbers are not disturbed by the howlings of ravenous wild-beasts. Peace, prosperity, and plenty is in our land. The little handful has grown to a mighty host. Our efforts have been prospered, and the earth has smiled. — And now instead of fears for the issue, and prayers for succor, we confidently anticipate the time when in agriculture, as in everything else, we shall stand pre-eminent before the whole world. Truly may we say there has been a change! And shall it stop? or shall it go on? Shall we rest satisfied with what has been done, now that our energies are just beginning to be developed, and now that we have inducements greater than ever to press onward? By you, Gentlemen, and such as you, is the question to be solved. By directing to the science the same mental power, that you devote to anything else, and the same unwearied diligence, everything desirable will be attained. True, we have not the great staples, the sunny clime, the fertile soil of the south: but we have not slavery. True, we have not the luxuriant prairies and mighty rivers of the West: but we have what is wanting in those places, the good old fashioned New England habits of economy and industry. We have not the blessings of many other lands; but at the same time we have not the curses that are entailed upon them. We have everything that is needed to induce our surpassing all other lands in this science; and it rests with you, Gentlemen, and your fellow workers in this cause, to say whether or not these results shall be attained.

Art. V.—*The Rose Bush.*

"*Flora Domestica, or the Portable Flower Garden, with Directions for the Treatment of Plants in Pots; and Illustrations from the Works of the Poets,*" is the title of an English work in our possession well designed for the instruction and amusement of those who are confined to the cultivation of plants in pots, as well as cultivators at

large; not only for the information it gives relative to the history and cultivation of the different plants it treats upon, but also for the "interesting or poetical associations with their history."

The author says, "In the belief that lovers of nature are most frequently admirers of beauty in any form, such anecdotes or poetical passages are added, relating to the plants mentioned, as appeared likely to interest them."

Rose Bush. Rosa. Rosacæ. (Icosandria Polygnia.)
French, *le rosier*, flowers, *la rose*: in bas Breton, *ros*.—Italian, *rosajo, rosa:* in Brescian, *larrosa*.

It is not intended to set down here a catalogue of the various kinds of Roses, but to speak of a few of the most eminent, and particularly such as are best adapted for the present purpose. Unfortunately it happens with many of them as with some other valuable plants of which the Laurustinus is one, that they will not thrive well in the vicinity of London.

The Single yellow Rose is a native of Germany, Italy and the South of France. The Austrian Rose is considered a variety of this: it is of a sulphur color outside, and a bright scarlet within. The Double yellow Rose is full and large, as the Provins Rose: it is a native of the Levant.

These kinds are principally mentioned for their variety; being some of those which will not grow near London.

The Cinnamon Rose — French, *rose canelle* — is one of the smallest and earliest of the double garden roses; it is supposed to be named from the scent of the leaves, some say of the flowers. Mr Martyn says he can discover nothing in the scent of either, at all resembling that spice.

The Dog-Rose is well known as the blossom of the Common Briars, growing wild in almost every part of Europe: here called the hip-tree, hep-tree, and in Devonshire, canker and canker-rose: the name of dog-rose probably arises from the heps or fruit being eaten by dogs, whence the Tartars call the heps by a name signifying dog-fruit. In French, these roses are called *rosier sauvage*, wild rose-bush; *rosier des haies*, hedge rose bush; *rose de chien*, dog rose; *rose cochoniere*, swine rose; *eglantier*, eglantine; in Italian, they are called *rosa salvatica; rosa canina*.

Montgomery, finding one of these roses late in the month of Octo-

ber, addressed some lines to it, in which it must be confessed, he treats it with singular harshness. He shows it none of that delicate consideration, poets usually feel for distressed flowers. Moore expresses the tenderest compassion for a rose that lived late in the *summer*, when all its companions were faded and gone; *this* unhappy rose was found suffering the keen blasts of approaching *winter*, yet the poet aggravates its misery by bitter reproaches:

"Last, and meanest of thy race,
Void of beauty, color, grace!"
* * * * *
* * * * *
"How thine ancestors would blush
To behold thee on their bush."

A little consideration might have shown the poet that the said ancestors, had they lived to see this their unfortunate offspring, would probably have been as little given to blushing as that pale flower itself.

The Scotch Rose is also common to most parts of Europe, the petals are white, or cream-colored; yellow at the base, and sometimes striped with red; the fruit is a dark purple, and the pericarp contains a fine purple juice, which, diluted with water, dyes silk and muslin peach color: the addition of alum will make it a deep violet dye. The fruit, when ripe, is eaten by children: the leaves are small and elegant: the whole plant seldom exceeds a foot in height; it likes the shade and a moist soil.

The Common Provins Rose — French, *rose de Provens* — is one of the most beautiful yet known in the English gardens: it is very large and full, folded close in the manner of a cabbage: some call it the Cabbage Rose on this account. It is the most fragrant as well as the handsomest kind we have: it will grow seven or eight feet high. The petals which are deep red and of a powerful scent, may be kept for a year or eighteen months by being penned close. It takes its name not from Provence, as is commonly supposed, but from Provins, a small town about fifty miles from Paris, where it is largely cultivated; and where it was first introduced from the east.

There are two small varieties of the Provins which are much esteemed, the *Rose de Maux* and the Pompone Rose: if the old wood of these kinds be cut down every year after they have done blowing, it will cause them to shoot more vigorously, and to flower more freely.

The Moss rose or Moss Provins rose, is well known as an elegant

plant: the flowers are deeply colored, and the rich mossiness which surrounds them gives them a luxuriant appearance not easily described; but it is familiar to every one. It is a fragrant flower: its country is not known to us, and we know it only as a double flower.

The origin of its mossy vest has been explained to us by a German writer:

"The angel of the flowers one day
Beneath a rose-tree sleeping lay:
That spirit, to whose charge is given
To bathe young buds in dews from heaven;
Awaking from his light repose,
The angel whispered to the rose:
'O fondest object of my care,
Still fairest found where all are fair,
For the sweet shade thou'st given to me,
Ask what thou wilt, 'tis granted thee.'
'Then,' said the rose, with deepened glow,
'On me another grace bestow:'
The spirit paused in silent thought.
What grace was there that flower had not!
'Twas but a moment; — o'er the rose
A veil of moss the angel throws,
And robed in nature's simplest weed,
Could there a flower, that rose exceed?"

The Red Provins rose is smaller than the Common Provins, and deeper colored; there is also a Blush and a White Provins.

The Damask rose is a pale red; it is not very double, but is sweet-scented and extremely handsome. It is a native of the south of France: there are many varieties, the Monthly, the striped Monthly, which is red and blush colored, and the York and Lancaster, so called because it is striped with both red and white. Miller believes this Rose to have been brought originally from Asia: a syrup is prepared from it.

The Frankfort rose is full and handsome, but scentless. This and the Damask rose grows about the same height as the Provins.

The Monthly Roses do not thrive well near London, but are not so peremptory in this point as the Yellow Roses, which it is said will not flower within ten miles of it. Of the other kinds which have been mentioned, the dead wood should be cut out every year, and the suckers taken off; this should be done in autumn.

The Red Rose is large, but not very double: it is of a rich crimson color, and particularly fragrant. Parkinson calls this the English

Rose, because the first known in this country, and more cultivated here than elsewhere; and because it was assumed by some of our kings as a symbol of royalty. There is a variety of this kind with white and red stripes. This rose is used for conserves, infusions, honeys, syrups, &c. and was much valued by the Arabian physicians.

Gerarde says, "that in Leylande fields, in Lancashire, the Garden rose doth grow wild in the ploughed fields among the corn in such abundance, that many bushels of them may be gathered there, equal with the best Garden roses in every respect; but what is yet more surprising," continues he, "is that in one of the fields called Glover's field, every year that it is ploughed for corn, it will be spread over with roses; but when not ploughed, then there shall be but few roses gathered:" and this he has "by the relation of a curious gentleman there dwelling."

"I give this improbable tale," says Mr Martyn, after quoting this passage, "as an instance of the dependence that is to be placed upon the information of curious gentlemen." Johnson has set it right by informing us, he has heard that the roses which grow in such plenty in Glover's field, are no other than the *Corn rose*, or Red poppy.

The Hundred-leaved Rose is a native of China: they are very double, deeply colored, with little scent. This is a most beautiful species; the varieties are numerous; it is often confounded with the Damask rose, from which it is quite distinct. This rose is used in medicine, and a fire distilled water of an exquisite perfume, is prepared from it; but the oil or rather butter, that swims on the water has no scent. The water which is prepared from the common Dog rose, is by many considered as more fragrant, than when distilled from any of the garden Roses. The leaves, too, of this wild kind are used as a substitute for tea; and the fruit when ripe and mellowed by the frost, is often eaten, and thought very agreeable; it is a great delicacy to some kinds of birds, to pheasants in particular; it is also mixed with sugar, and sold under the name of conserve of heps, and forms a good vehicle for many nauseous medicines.

The Evergreen rose is a native of the south of Europe: it is white, single, but very sweet; in appearance it much resembles our Eglantine. It is this rose that yields the fine scented oil called attar of roses, which is imported from the Barbary coast, Egypt and the East Indies: a few drops of this oil, dissolved in spirit of wine, forms the

esprit de rose of the perfumers; and the same dissolved in fine sweet oil, their *huile antique de rose.*

The Eglantine, or Sweet rose, called by the Italians *Rosa Perla,* (Pearl Rose,) is a native of all Europe, in woods, thickets, hedges, &c., chiefly in a gravelly soil. The varieties with double flowers are very elegant shrubs.

The Musk rose is common in every hedge in Tunis; it is white, smells strong of musk, and blows in August; there are single and double varieties. This Rose requires plenty of room.

The Red China Rose is semi-double: it is admired for its fine rich crimson color, and for its fragrance. It blows in succession all the year, but more sparingly in the winter months. There is also a Blush, and a Pale China Rose.

Lucan tells us that, when Cæsar was entertained by Ptolemy and Cleopatra —

> "With wreathes of naid the guests their temples bind,
> And blooming roses of immortal kind." — ROWE'S LUCAN.

The White Rose is a native of China and most parts of Europe: it grows to a height of nine feet, is very full of blossoms, and extremely beautiful, but has little or no smell.

Roses in general delight in an open free air, and will bear the cold well: but when in pots, it is better to place them in doors during the winter, particularly such as flower at that season. The earth should be always kept moderately moist.

The Rose is pre-eminently the flower of Love and Poetry, the very perfection of floral realities. Imagination may have flattered herself that her power could form a more perfect beauty; but it is said, she never yet discovered such to mortal eyes. This, however, she would persuade us to be a mere matter of delicacy, and that she had the authority of Apollo for her secret success:

> ——————"No mortal eye can reach the flowers,
> And 'tis right just, for well Apollo knows,
> 'Twould make the poet quarrel with the rose."

It is however determined, that until the claims of such veiled beauty, or beauties, shall rest upon the better foundation, the Rose shall still be considered as the unrivalled Queen of Flowers.

> 'I saw the sweetest flower wild Nature yields,
> A fresh blown Musk Rose."

It is said, however, that the angels possess a more beautiful kind of Rose than those we have on earth. David saw in a vision a number of angels pass by with gilded baskets in their hands:

"Some as they went, the blue-eyed violets strew,
Some spotless lilies in loose order threw;
Some did the way with full-blown roses spread,
Their smell divine, and color strangely red;
Not such as our dull gardens proudly wear,
Whom weathers taint, and winds rude kisses tear;
Such, I believe, was the first rose's hue,
Which at God's word in beauteous Eden grew;
Queen of the flowers that made that orchard gay,
The morning blushes of the new-born day."

The Rose, as well as the Myrtle, is considered as sacred to the Goddess of Beauty. Berkeley, in his Utopia, describes lover's as declaring their passion by presenting to the fair-beloved a rose-bud just beginning to open: if the lady accepted and wore the bud, she was supposed to favor his pretensions. As time increased the lover's affection, he followed up the first present by that of a half blown rose, which was again succeeded by one full blown: and if the lady wore this last, she was considered as engaged for life.

In our country, in some parts of Surrey in particular, it was the custom, in the time of Evelyn, to plant roses round the graves of lovers. The Greeks and Romans observed this practice so religiously, that it is often found annexed as a codicil to their wills, as appears by an old inscription at Ravenna, and another at Milan, by which roses are ordered to be yearly strewed and planted upon the graves.

It is the universal practice in South Wales, to strew roses and other flowers over the graves of departed friends.

Morestellus cites an epitaph, in which Publia Cornelia Anna declares that she has resolved not to survive her husband in desolate widowhood, but had voluntarily shut herself up in his sepulchre, still to remain with him with whom she had lived twenty years in peace and happiness: and then orders her freed women to sacrifice there to Pluto and Proserpine, to adorn the sepulchre with roses, and feast upon the remainder of the sacrifice.

We have seen, within these few years, the body of a child carried to a country church for burial, by young girls dressed in white, each carrying a rose in her hand.

Poetry is lavish of roses; it heaps them into beds, weaves them into crowns, twines them into arbours, forges them into chains, adorns with them the goblet used in the festivals of Bacchus, plants them in the bosom of beauty. — Nay, not only delights to bring the rose itself upon every occasion, but seizes each particular beauty it possesses as an object of comparison with the loveliest works of nature; it ts soft as a Rose leaf; as sweet as a Rose; Rosy clouds; Rosy cheeks; Rosy lips; Rosy Blushes; Rosy dawns, &c. &c.

Art. VI. — *On the Culture of the Tuberose.*

Poliánthes tuberósa, or common white Tuberose, is a native of Italy and the East Indies, first imported into Great Britain in the year 1829, and is now become a great traffic between Dutch and English nurserymen. The generic name was given it by Linnæus, taken from polys many, anthos a flower, owing to the abundance of blossoms it produces. The specific, by Wildenow, taken from the root consisting of fleshy bodies connected by slender fibres. It belongs to the 6th class and 1st order. Hexandria (hex 6, aner a man, or male organ.) Monogynia (monos 1 : gyni, a woman, or female organ) of the Linnæan classification, and to the order Hemerocallidea in the Jussieuean, or natural arrangement of plants. Its continental names are La Tubereuse, Fr.; Die Tuberose, Ger.; Tuberoos, Dutch; and Tuberos, Swedish. There are two species and one variety of this genus viz. P. tuberosa, P. tuberosa flora plena (the subject of the present paper,) and P. gracilis, or slender-leaved Tuberose.

In the autumn provide a quantity of compost, composed of the following materials: — two wheelbarrows full of light maiden loam, one ditto of decomposed hot-bed dung, and a little white sand, well chopped and mixed together at different times during the following winter, for the frost to ameliorate and decompose it. In the month of February, prepare the bulbs by taking off all the loose rind, and superfluous offsets, or side bulbs, being careful not to injure the principal one. Then provide a sufficient quantity of pots (the size should be 7 1-2 in. by 6 1-4 in.,) well drained with broken potsherds; they

must be filled with the above compost, and well shaken down, but not pressed with the hands. A little white sand must be placed in the middle of the top of the compost, and the bulb must be pressed gently, though firmly, down the sand, to within a quarter of an inch of the top of the bulb. Some cultivators use finely-pounded stone, commonly called grit in this county (Cheshire,) instead of sand, which answers the purpose very well.

After the bulbs are potted, plunge them in a strong hot-bed, where they must remain till they have grown to the height of three or four inches; they must be kept quite close till they begin to vegetate, when a little air may be admitted; shaded when the sun is powerful, and covered up with mats at night; water must be supplied very sparingly while they are here, for the steam arising from the bed answers, in a great measure, the purpose of water. When they have grown to the height above stated, take them to the stove, allowing them a plentiful supply of air and water, setting them in a place where they will get plenty of light, or they will be apt to draw up weakly. As they advance in growth, tie them carefully up to green sticks 6 or 7 feet long well rounded at the bottom; care must be taken not to tie them too tight, or else their stems will become ill-shapen and crooked, and they will flower weakly. Here let them remain till they are in flower, when they must be moved to the conservatory; and when set among other exotics, they will, by their beauty, add to the gaiety and grandeur of the house, and shed around their fragrant odours, every even and morn when the house is closed, such that cannot be conceived but by those whose fortune it is to grow them well.

I have thus endeavored to pen down my process in as plain and brief a manner as possible, humbly hoping that these few remarks may prove of some utility to some of your numerous readers; assuring them them that they are not mere theoretical opinions, but the method detailed is the result of some years' experience, which induces me to communicate them.

Loudon, in his Encyclopædia of Plants, page 255, informs us that it is R. A. Salisbury's opinion, that we might grow our own bulbs by planting the offsets in such a situation as would obtain for them a sufficient degree of heat in summer, to bring their leaves out to their full magnitude, and their bulbs to their proper size. The theory, he adds, which I would recommend, is to keep the offsets growing as freely as possible, from May to October, but in a complete rest and drought for the remainder of the year.

Art. VII. — *On the History of the Polianthes Tuberose.*

The following is an extract from the Transactions of the London Horticultural Society. It is a part of a valuable paper communicated by R. A. Salisbury, Esq.

"The first account that I find of the Tuberose, is in L'Ecluse's *History of Plants*, where it appears that on the 1st of December, 1594, he received a specimen of it, in very bad condition, from Bernard Paludanus, a physician at Rome, to whom it was sent by the celebrated Simon de Tovar, of Seville. It certainly had not then been many years in Europe, and Linne, in his *Hortus Cliffortianus*, on this head refers us to Plumier's *Genera Plantarum*, p. 35, who says it was first brought by Father Minuti, from the East Indies, into the senator Peiresc's garden at Boisgencier, near Toulon. It is much more probable, however, that it was introduced at an earlier period, and from America, for no author describes it as wild in the East Indies; Loureiro only found it cultivated in the gardens of Cochin China; and Rumph says it was unknown in the island Amboina, till the Dutch carried it there from Batavia, in 1674. On the contrary, Kamel informs us, that it was brought to the Island of Luzone by the Spaniards, from Mexico; and Parkinson, in 1656, tells us, that the plants, which he describes as two species, 'both grow naturally in the West Indies, from whence being brought into Spain, have from thence been dispersed unto divers lovers of plants. The senator Peiresc, as may be learnt from Gassendi, was only fourteen years old in 1594, when Simon de Tovar had already cultivated it at Seville, and according to Redonte, it was not planted in his garden as Boisgencier, by Father Minuti, till 1652, whom that author makes to have brought it from Persia: I only infer, however, that he travelled from Hindostan over land. Redonte moreover asserts, that the authors of *Flora Peruviana* found it wild in America, but in the work itself, they say, cultivated in gardens. Hernandez' evidence, however, I think, takes away all doubt about the matter: he says, 'provenit in frigidis et temperatis regionibus, veteri incognita mundo,' and as the Agave to which the Tuberose is more immediately allied, is also a native of Mexico, I am fully of opinion that it is indigenous there.

"The description given by the venerable L'Ecluse of his specimen, half dried, and battered by the journey, with only the lowest flower of

the spine expanded, affords a memorable instance of his accuracy and discernment. The size, the stem, insertion and figure of the leaves, and their hempy texture, are particularly noticed; the shape of the corolla, with its general similarity to that of the Asiatic Hyacinths, but in consistence rather to that of the Orange, is next remarked; and having no knowledge of the root to guide this judgment, but what he derived from Simon de Tovar's appellation of Bulbus Indicus florem Album preferens Hyacinthi Orientalis æmulum, he guesses it may possibly belong to the same genus with the Bulbus oriophorus, or Peruvian Hyacinth, though not without some doubts raised by its stem being covered with leaves, and its corolla. Two years afterwards, these doubts were corroborated by his receiving roots both from Simon de Tovar and the Comte d'Aremberg, which by August were full of leaves; and I think it worth noticing, that his figure of the plant appears evidently to have been made up from the original specimen sent by Bernard Paludanus, and one of these growing roots, which he expressly mentions did not flower: he concludes with observing, that if it is still to remain in the genus, it may be called Hyacinthus Indicus tuberosa radice.

"From this Latin phrase, no doubt, our silly appellation of Tuberose, and the more accurate French name, Tubereuse, originated; but in the East Indies it is distinguished by the poetical title of Sandal Malam, or Intriguar of the night; in Spain, where, at the period of this plant's being discovered, it was the fashion to give both places and things religious names, it is called Vara de St. Josef.

"Soon after L'Ecluse's figure, an excellent one by Vallet, the embroiderer, came out at Paris in 1603, and both these were copied and published as different species, by Swertius, in his *Florilegium*. An original figure, which has great merit for that day, though not equal to Vallet's, next appeared in the *Theatrum Floræ*, in 1622: it shews many roots flowering in one pot. From Ferrarius's pompous book on the culture of flowers, we learn it was still regarded as a rarity in the Barberini gardens, at Rome, in 1633, but that it increased abundantly, and was taken out of the ground every year in March, to separate the offsets. Our countryman Parkinson, more than half a century after its being first described by L'Ecluse, is the next author who treats of this plant; but valuable as many of his quaint observations still are to the horticulturist, his account of the Tuberose does him little credit; he makes two species of it, saying, he thinks L'Ecluse

never saw the first, though he owns 'some do doubt that they are not two plants several as of greater and lesser, but that the greatness is caused by the fertility of the soil;' his figures are wretchedly copied from Swertius, and by his calling it the Indian knobbed Jacinth, it appears not to have been known here then by its modern name. Gasper Bauhin, with his usual carelessness, also takes it up as two species from Swertius, and even the learned Ray seems to have known as little about it in 1693, adding, however, to his second species, the title of Tuberose.

"I meet with nothing more of any consequence respecting it, till Philip Miller, the pride of every British gardener, published the first edition of his Dictionary in 1731. He makes it a distinct genus from the Hyacinthus, and describes the variety with double flowers, now so common, but then only to be seen in M. de la Court's garden, near Leyden, whose memory is most justly consigned to infamy by our author, for destroying many hundreds of the roots, rather than part with a single one to any person; an instance of narrowness of mind and ill-nature, he adds, too common among the lovers of gardening. I trust no one who belongs to this Society will ever deserve a similar reproach. At this period we find the roots were annually imported into England, along with Orange Trees and Myrtles from Genoa; and to the directions there given for blowing them so as to have a succession of flowers from June to October, nothing can be added."

ART. VIII. — *Notes on the Forest Scenery in North America.— Made by Mr James M'Nab of the Botanic Garden, Edinburgh, and Mr R. Brown, late of Perth, during a Journey taken for the express purpose of observing the Characters of Trees in their Natural Woods.*

EVERY individual who has been accustomed, during his home travels, to pay any attention to the Forest scenery in his native country, must be astonished at the great difference which a foreign land presents.

In tropical regions, the whole aspect of a country is changed by the total alteration in habit, and the luxuriancy of the forests, compared with those seen in temperate climates.

In North America the forest scenery is sublime, and upon a very extensive scale. When looked upon by the inexperienced observer, it may not seem to afford forms different from what he has been accustomed to witness in other countries; but the practical eye must at once perceive the wonderful difference of form which the American trees present.

Before landing upon the shores at New York, the head lands appear to the stranger from the old country, of a very dark and dismal hue, from the quantity of pines and red cedars (*Juniperus Virginiana*) which seem to be the chief inhabitants of the soils around: but on landing, the whole city and neighborhood seems like a vast garden, from the number of beautiful trees, which either grow spontaneously, or have been introduced into the avenues of the city, from more southern climes.

It is here that the observing stranger is first impressed with the great diversity of form, and the variety of foliage furnished by American trees: but it is not to be expected that throughout the country, this diversity of form is everywhere to be seen. It is much the contrary. Near the large cities none of the natural forests remain, nor can they be expected, till we penetrate beyond the reach of internal communication of rivers and lakes: for the demand of wood, as fuel and otherwise, in the neighborhood of such places is very great.

About Hoboken, in New Jersey, many very ornamental forest trees of great size are seen, and frequently covered to the summit with wild vines. Of these the *Plantalis occidentalis* (button-wood or false sycamore.) *Liriodendron tulipifera*, (white wood or tulip tree,) *Liquidamber styraciflua*, (sweet gum,) with some splendid oaks, chestnuts, limes, and honey locusts, (*Gleditschia triacanthos*,) are pre-eminent. There are also many magnificent Catalpa trees (*Catalpa syringifolia*,) with a great number of fine old weeping willows and Lombardy poplars. These last appear to be universal favorites, for they are every where to be seen, and are indeed almost the only exotic forest trees which the Americans think of planting. The Lombardy poplars, from their great abundance, give to a place a very curious but by no means a picturesque appearance.

All over the northern parts of New Jersey, the soil is good, and the vegetation very various. In the Southern parts, however, the soils are poor, and covered chiefly with pines, red cedars, and scrub oaks. The swampy grounds abound with white cedars, (*Cupressus*

thyoides,) and around the borders of the swamps, the *Magnolia glauca*, *Kalmia latifolia*, *Rhododendron maximum*, with many other varieties of Azalea viscosa, Andromedas, &c., are seen in great abundance.

Proceeding from New York by steamboat up the Hudson River, towards Albany, the scenery is romantic and varied, both from the irregularity of surface, and from the ornamental nature of the trees, which in many parts grace its banks. Leaving the city upon our right, we dash along as if on the surface of a lake, no outlet being seen, from the innumerable twists and turns which the river takes. The banks, for many miles up, are covered with brushwood, the larger trees having been mostly cut down. On the left, which is the New Jersey side, the land for many miles is very bold, having shelving rocks, towering three hundred feet above the river, and clothed with red cedars.

At *Tappan Sea*, twentyfive miles up, the river attains considerable breadth. On the right, the land is laid out in fields for the cultivation of grain. Many apple and pear orchards are mingled with these fields, and produce a curious effect from the trees being placed at regular distances, and having large tufted round tops.

Passing *West Point*, fifty miles from New York, the scenery assumes quite a Highland appearance: the hills are seen elevated high above the waters, and their round summits densely studded with cedars; two miles further up, the scenery is changed from a highland to that of a lowland description; and many cultivated farms are again seen extending back into the country on both sides. On the most worthless spots by the river side, for the last forty miles, red cedars were predominent; and where soil existed in any quantity, oaks were interspersed.

About *Hampton*, sixtyseven miles up, we got into a great limestone country, and the change from the dark hue of the red cedar, to the fine lively green of the Arborvitæ, (*Thuja occidentalis*,) is at once the most striking. These trees are self-sown over the surface of the rocks and along the water edge; in general they are finely shaped pyramidal specimens, varying from one to twenty feet in height.

At Poughkeepsie, still further up on the right, a difference begins to shew itself, the ground, being now ornamented with a few exotic trees, or mixed with indigenous ones, are seen the Huntingdon and weeping willows, with Lombardy poplars; all much planted by the

proprietors, both by the water's edge, and interspersed amongst the native woods.

Passing *Hyde Park* to *Rhinbach*, the same spirit for planting a few ornamental trees, seems to have prevailed: and among them were catalpas, which at this season of the year (July,) presented an interesting appearance, from the quantity of flowers which they displayed.

Here for the first time, the Catskill Mountains are seen towering high upon the left at a great distance. They are evidently wooded to the summit. Continuing onwards, on both sides, many beautiful residences are passed; and the cultivated land extends, with well defined edges, to the river, till within a mile of Albany, where the river gets much broken with Islands, and the banks become low, but not destitute of that shade, which is so characteristic of American scenery.

Between Albany and Lake Champlain, the ground in general is in an excellent state of cultivation; and being well watered, is rendered, in consequence, an agreeable situation for the settler. There it was that we first caught a sight of the *Abies Canadensis*, (hemlock spruce,) and the lofty white-bark American elms, in native stations.

Entering another steamboat upon *Lake Champlain*, from the westward, the course is winding and narrowed. The woods on both sides, for the first sixteen miles, are various, the principal trees being the wild cherry (Prunus virginica,) elms, walnut, sugar maples, with the aspen poplar, (*Populus tremuloides.*) The rocky grounds again abound in aborvitæ. After having fairly entered upon the expanse of the lake, the appearance of the lofty white or Weymouth pine, (*Pinus strobus*,) towering above the deciduous trees, on rising grounds at the base of the hills, of a dark aspect, nearly destitute of branches was remarkable.

About *Essex*, half way along, the lake widens much, and all at once the wooded rocky land by the water's edge, is changed for a rich fertile country. The different farms having their fields laid off in squares, and a large orchard attached to each, render this tract, with its natural beauties very agreeable. The soil around seemed a light rosy-colored clay, and the wood on the lower grounds was not very plentiful, but the rising grounds behind were densely studded with scraggy pines.

On reaching St. Johns, the northern extremity of Lake Champlain,

the forests presented the same appearance as they did where we first entered upon the Lake, with the addition of the *Abies balsamea*, (or Balm of Gileadfir,) and the sugar maple, which is here in greater quantities and larger than we had hitherto seen. Notwithstanding the great mutilation which the trees are subjected to in early spring, for their juices in the manufacture of sugar, they appear all in the most perfect state of health.

Passing onwards to *Lapraire*, on the St. Lawrence river, the only tree observed of any interest, and deserving of notice, was the Canoe birch (*Betula papyracea.*)

Several dense masses of these trees occupied the lower ground: but from their closeness, none had attained a great size. Till reaching this point, birches were by no means plentiful.

Art. IX. — *List of New and Rare Plants.*

1. Acacia vestita, Cunningham's Acacia. (Pax. Mag. of Bot.) Linnæan Class, Polygamia; Order, Monœcia; Natural Order, Leguminosæ. This very profuse and handsome flowering species was introduced in 1820, from New Holland, by Mr Cunninghame. It is a highly ornamental plant; the flowers are produced in immense numbers upon pendant racemose spikes, half a foot long; they are of a fine bright yellow color, and the plant when in bloom resembles a yellow pyramid, being in rich masses, relieved by a sprinkling of dark green foliage. The plant grows to the height of six feet, and deserves a situation in every conservatory and greenhouse; it blooms from April to June. This species may be procured at most of the principal nurseries. The plant flourishes well in a mixture of rich loam and peat — and to have plenty of pot-room, as it grows rapidly it will require frequent repotting; this is requisite with all the Acacias. — *Acacia* from *akazo* to sharpen, some of the species being very thorny.

2. Aptosimum depressum, The depressed. (Bot. Reg. 1882.) Synonym, Ruellia depressa. Ohlendorfia procumbens. Didynamia Angiospermia. Scrophralarinæ. A very pretty flowering plant, a native of the Cape of Good Hope, from whence seeds were brought by Mr Eckton. The plant has bloomed with Dr Lechmann, at Hamburgh. It is a greenhouse undershrub, laying prostrate, and producing a pro-

fusion of flowers; they are funnel shaped, more than an inch long, of a pretty blue color, having each of the five divisions of the mouth of the corolla streaked with black, and the upper part of the throat being white. Mr Eckton found the plant growing on the shores of the great Fish River, and there blooming from October to December. Mr Bentham says, this plant assimilates very closely to Salpiglossis prostata. He also enumerates six other species with which he is acquainted, namely, A. abietinum, A. eriocephalum, A. depressum, A. indivisum, A. tragacanthoides, A. viscosum. Also he remarks upon five species of a new genus from the Cape, closely allied to Salpiglossis, namely, Peliostomum leucorrhizum, P. origanoides, P. scoparim, P. virgatum, and P. viscosum.

The Aptosimum is a very desirable plant, and we hope will soon be in the possession of the nurserymen in this country. *Aptosimum*, from *a*, privative; and *ptosimos*, deciduous.

3. Cratægus tanacetifolia, Tansy-leaved Hawthorn. (Bot. Reg. 1884.) Synonym, Mespilus orientalis. Another very ornamental species of this interesting tribe of plants, and which deserves a place in every pleasure ground. The entire family of Hawthorns are at once so highly ornamental and odoriferous, that wherever their introduction is practicable we strongly recommend it. The beauty of their blossoms, their fragrance, and the successive profusion of fruit of various hues and sizes, we think, give them more than ordinary charms. A list and description of considerable extent will be given in our next number. The present species is a native of the higher mountains of Greece; the flowers are large, white, powerfully fragrant; the berries are produced solitary, as large as a May Duke Cherry, yellow, and has the scent of an apple; it is also sweet. *Cratægus*, from *Kratos*, strength, in reference to the wood.

4. Cratœgus odoratissima, Sweetest-scented Hawthorn. (Bot. Reg. 1885.) Synonym, C. orientalis. It is a native of the hills near the Black Sea. In this country it produces its very deliciously perfumed flowers in profusion, succeeded by clusters of rich red fruit of considerable size and beauty.

5. Douglassia nivalis, Snow Douglassia. (Bot. Reg. 1886.) — Pentandria Monogynia. Primulaceæ. The late Mr Douglas collected seeds of this pretty plant in California, and it has bloomed in the garden of the London Horticultural Society. When Mr Douglas was travelling across the Rocky mountains, in April 1827, at an ele-

vation of twelve thousand feet above the level of the sea, he was struck with surprise with a large patch of brilliant purple, surrounded by snow, which, on a near approach, he found to be blossoms of this pretty flowering plant. It very much resembles the Saxifraga oppositifolia. The plant forms a thick turf, with branches rising a few inches high, clothed with small flowers of a vivid purple color. The two plants raised in the Society's Garden, have been cultivated in the greenhouse, but it is probable it will flourish better when treated as alpine plants usually are. Another species, D. arctica, found on the shores of the Arctic Sea by Dr Richardson, is in the possession of Dr Hooker. *Douglassia*, in compliment to Mr Douglas.

6. Epidendrum Skinnerii, Mr Skinner's Epidendrum. (Bot. Reg. 1881.) Gynandria Monandria. Orchidaceæ. This very interesting species was sent from Gautemala, in 1835, by G. U. Skinner, Esq. to James Bateman, Esq. Knypersley Hall, Congleton, Cheshire. In the rich collection at that place it has bloomed, under the very skilful management of Mr Don. The species is a most profuse bloomer, producing a spike of flowers upon every shoot. The flower stem grows erect, producing a spike of blossoms several inches long; flowers pale purple, an inch and a half across. The plant merits a place in every collection. Epidendrum, from *Epi*, upon; and *dendron*, a tree, native habitation.

7. Hibiscus splendens, Splendid-flowering. (Pax. Mag. Bot.) Monandelphia Polyandra. Malvaceæ. A very fine flowering species which we find to grow and bloom freely in the greenhouse. It was introduced from New Holland in 1830, by Mr Frazer, who, in writing about it, said, "I consider this plant the King of all the Australian plants, I have seen it twentytwo feet high." The flowers this season were nine inches across, literally covering the plant; they are of a bright rose color. The plant flourishes in a mixture of rich loam and peat, requiring plenty of pot room; most of the public nurserymen possess plants of it. It would make a fine show if planted in a conservatory. *Hibiscus* from *hibiscos*, the name which the Greeks give to Mallow.

8. Lasiopus sonchoides, Sonchus-like. (Brit. Flow. Garden.) Syngenesia. Polygamia æqualis. It is a native of Armenia, and is growing in the Chelsea Botanic Gardens. The flowers much resemble those of the wild Hawkweed, of a pale yellow color, *Lasiopus*, from *lasios*, hairy; and *pous*, a foot.

9. ONCIDIUM LANCEANUM, Mr Lance's Oncidium. (Bot. Reg. 1887.) Gynandria Monandria. Orchidaceæ. John Henry Lance, Esq., first discovered this plant in Surinam, growing upon a Tamarind tree near to the Government House. Mr Lance afterwards found many more plants in different parts of the Colony, growing upon the branches or stems of the Tamarind, Calabash, or Sapodilla trees. The plant, however, flourishes freely if tied to the Brugmansia arborea, or Orange tree. The flowers are produced upon a stiff branching panicle. Messrs Rollissons of Tooting, had a plant flowered this season (1836,) the panicle having thirty flowers, each flower being two inches and a quarter in diameter. The sepals are of a greenish yellow color at their edges, bright yellow in the middle, and regularly marked with broad blotches of crimson and chocolate brown; the lip is of a bright violet at the edge, and a deep violet towards the base. Not only are the flowers so strikingly handsome in color, but they possess the additional charm of the most spicy fragrance, which they retain, even stronger, after the flowers are gathered and dried; no other Oncidium has fragrant blossoms. The plant merits a place in every collection of this interesting tribe of plants. Most of the nurserymen who cultivate orchideous plants have this for sale. The London Horticultural Society presented Mr Lance with the large Silver Medal, for the introduction of this, and other fine plants. *Oncidium*, from *ogkidion*, a tubercle, referring to two prominences on the lip of the flower.

11. PÆONIA TENUIFOLIA, *var.* PLENA, Double-flowered fine leaved Pæony. (Brit. Flow. Gard.) This very interesting variety was presented by Dr Fischer, from the Imperial Botanic Garden at St. Petersburgh, to Mr Goldie, nurseryman, at Ayr, Scotland. It is a very desirable plant for the flower border, not rising higher than half a yard, and producing large double flowers of a deep crimson color. The present variety is cultivated in collections around London.

12. TRIFOLIUM FUCATUM, Farded Clover. (Bot. Reg. 1883. Diadelphia Decandria. Leguminoseæ. The late Mr Douglas sent seeds of this *annual* Clover from California, to the London Horticultural Society. In the garden at Farnham Green, it bloomed, but no seeds were produced, so that the plant is lost from this country. The heads of flowers have a pretty appearance, being of a cream color towards the centre, and of a rosy-red at the ray.

13. VERBENA ERINOIDES; VAR. SABINI, Dwarf Erinus-like Vervain.

(Brit. Flow. Gard.) Synonym, V. Sabinia. This pretty flowering variety differs from V. erinoides in being smaller, closer in its growth, and of more glabrous habit, and rich purple flowers. It was introduced in 1833, from Chili, and is now in most general collections. The plant is quite hardy, and blooms from May to November.

ART. X. — *An Address delivered before the Massachusetts Horticultural Society, at their Eighth Anniversary, Sept.* 17, 1836 By EZRA WESTON, Jr. Boston: Tuttle, Weeks & Dennett.

MR WESTON in his Address on this occasion has departed from the usual course; and instead of occupying the whole space with an enumeration of the benefits to himself and to commnnity of the labors of the horticulturist, has illustrated, in a plain and familiar manner, a topic of general interest. In this he has done wisely, and set a good example for his successors. The fact is, we have heard enough of the advantages of this pursuit to convince any one who is willing to be convinced. Every thinking man is already aware of its intimate connexion with the progress of refinement and intellectual cultivation among us, and our aim should be, now that we have become alive to its importance, to carry it forward to its greatest perfection — to effect, so far as is in our power, the aim of all improvements, the greatest good to the greatest number; and this is to be produced by the dissemination of a knowledge of such subjects as forms the main topic of this Address. We should be glad to transfer the whole of it to our pages,— but must content ourselves with extracts.

After noticing the fine weekly exhibitions of the past season, — accounts of which are on record in our preceding numbers, — Mr Weston continues:

"I feel tempted to say something of these exhibitions; of their effect, not alone upon those who contribute, but upon those who frequent as casual spectators. They have a good moral effect, and deserve on that account to be well supported and attended. There are few things more refreshing to the man of business, or to any man, that will so recruit the senses and charm the spirits as to step aside a moment from the confusion and anxiety of the street, and look upon

the beauty and bounty of nature, upon the splendid array of 'mingled blossoms.' It is like the breeze that meets the wave-tost sailor, upon the Indian Ocean, when

> 'Off at sea northeast winds blow
> Sabean odors from the spicy shore
> Of Araby the blest.'

To the man of leisure and taste, what more pure pleasure could catch his taste than a rare and choice exhibition of flowers — with their wonderful economy, texture and colors: perhaps in the course of his search for amusement he may find none that shall so rouse and cheer his languid attention. What more graceful and delicate sight can meet the eyes of the young — in what school of the philosophers, in what gallery of art can they learn more of that which ameliorates and refines? I should therefore wish that in all cities, but more especially in ours, a hall of good proportions and accommodation, not remote from the paths of business, might be open, where the public could weekly visit an exhibition of flowers and fruits. I believe it would have an elevating effect upon the public mind, and be as attractive and worthy of support as a gallery of statuary or paintings."

The remainder of the Address is principally occupied with an account of the "*Theory of Van Mons*," an able and interesting translation of which from the original French work has been presented to our readers by Hon. H. A. S. Dearborn, in a former number. We quote Mr Weston's introduction to the history of the theory, with which we must close our extracts. We trust some of our zealous horticulturists will put this theory to the test in this country, and thus advance not only their own interests, but that of their fellow-laborers in this good cause.

"During the past year, the Society has received an accession in the numbers of its members both subscription and honorary; but perhaps there is no name upon the catalogue that is more worthy of a place there, than that of the aged and eminent Dr Van Mons, of Belgium. I shall occupy the few moments I may call mine here, in presenting some remarks upon his services and theory, at the risk of stating some things already well known and of adding but little or nothing to the knowledge of some present.

"The causes of the decay of fruit trees has for a long time occupied the attention of horticulturists, and it has been allowed that dis-

ease, the consequence of old age, has caused and does cause this decay, and will gradually work the extinction of some of the best varieties.

"Some of the varieties of fruit that were formerly in high reputation, have now become so deteriorated as scarce to be worth propagation, and others are fast hastening to the same fate, though they stand upon the catalogues, and are oftener purchased; perhaps oftener purchased and cultivated by those who are ignorant of this characteristic, than a newer variety.

"The graft is but an extension of the parent stock, and therefore liable to all the diseases and defects of its original, and when we consider that most of our fruits have been propagated in this manner many years, we may well desire, that some certain method might be discovered by which new varieties, and those of a delicious and if possible improving stamp, might take the place of the old and failing.

"Practical and skilful horticulturists recommended that the seeds should be planted, and that then we would be supplied with a different variety of fruit, but with a healthy tree and *perhaps better fruit.*

"Those who thought that by sowing the seed they might obtain more healthy trees and more improved varieties were correct in their opinion, for in the seed is the germ of improvement; but it was necessary to observe other facts, and dive deeper into the laws of nature before it could be taken advantage of.

"It has been therefore a desirable thing to discover the law by which to obtain new good varieties. The celebrated Mr Knight, of very extensive experience in the propagation of fruit trees, attempted, though as we may believe on a very limited scale, to produce new varieties of the pear by introducing the pollen of one variety into the prepared blossom of another and raising trees from the seeds of the fruit thus obtained. But the method is complicated, and he never appears to have carried the experiment to much length, — and it is a method somewhat uncertain. It is still by means of the wonderful virtue that is contained in the seed by which a new variety is to be produced.

"The best fruits it was well known were those raised from the stone or the seed. At the village of Montreuil, near Paris, as it is stated by Sir J. Banks, where formerly the whole inhabitants were maintained by the raising of peaches, the best fruits were never budded or grafted, but always reared from the stone.

"There seems to be a very wonderful quality in the seed, and it is well known in the cultivation of annuals introduced from a warm climate, that if the season be of sufficient length for them to ripen their seeds, they (the seeds) become of such a virtue as to be able to resist the severest frosts with impunity. So speedily does nature strive to adapt herself to the new situations and exposures she may meet.

"It is also well known that plants and perennial shrubs do not grow harder by time, when placed in a new exposure, that the suckers or cuttings from them also do not, but take with them the same quality possessed by the stock from which they have been separated. But that the true method of inuring tender plants to colder climates, is by planting the seed perfected in such climate. In this way, many of the more beautiful plants of the South have been and more still may be made to perfect their seeds here, and others raised from their seed might be made to endure our winter and adorn our grounds.

"This method was pointed out by Sir Joseph Banks twenty years since, and he felt assured that though some plants of peculiar delicacy and tenderness might require many generations to inure them to colder climates, yet these wonderful though simple powers of the seed would produce finally the change. But the planting of seed is often of so prospective a benefit that few have the courage to plant.

"'Old as I am,' says Sir Joseph Banks, in his communication to the London Horticultural Society, 'I certainly intend this year to commence experiments on the Myrtle and Laurel,' and at the same time with great modesty but in a cheering tone, 'I trust, therefore, it will not be thought presumptuous in me to invite those of my brethren who are younger than I am, and who of course will see the effect of more generations than I shall do, to take measures for bringing to the test the theory I have ventured to bring forward. Possibly by these means the Magnolia glauca, at some later time may adorn our woods more generally, and ornament the grounds of every residence in our vicinity.

"It was known to the ancient cultivators, and perhaps it required no great experience to discover the fact that cuttings from the bearing branches did not afford durable trees.

"Mr Knight recommended as a method of perpetuating a variety with vigor, to obtain plants from some detached part of the extremity of the roots.

"By sowing a large number of seeds at hazard, doubtless some

good variety might be obtained, but the process might prove one of perplexity and disappointment instead of pleasure or profit."

These Addresses, by the way, form an excellant addition ot the library of the horticulturist, emanating as they do from men who are practically workingmen in this matter. Dearborn, Cook, Russell, &c. have given us their experience on various parts of the science, and from such minds it is impossible but that many valuable and practical hints should be produced. L' Ami.

Art. XI. — *On Propagating Plants by Grafting, Budding and Inarching.* By Mr Charles Taylor, Elam Hall, Dorsetshire.

Many plants are propagated by one or the other of these means; I cannot, however, omit noticing a very ingenious mode of grafting, described by M. Oscar Leclerc, of the Jardin du Roi, Paris, in a communication to the editor of the Gardener's Magazine, and said to be the invention of Mr Blaike, an eminent British gardener, who long resided in France, and who may be considered as the founder of modern gardening in that country. "This mode of grafting," observes M. Leclerc, "which I shall henceforth call the *Graffe Blaikie*, succeeds in most places, both of the hot-house and open air; and it seems particularly well calculated for the propagation of inertropical plants and trees. The success which attends it on delicate hot-house plants, and particularly on those which are hard-wooded, is very difficult to be attained by any other means. During the time when the sap is in full activity, the scion must be procured, if possible, of exactly the same diameter as the stock on which it is to be grafted.

"First make two lateral oblique incisions, exactly similar, the one on the stock from above to below, the other on the scion from below to above, and both sloping from without towards the centre or interior of the wood. The tongues are then cut in the form of a long wedge by stripping them of their bark. The cut parts are then reunited, by taking care, as usual, to make them coincide as exactly as possible. The scion being bound by ligatures to the stock in the ordinary way. The inferior part of the scion, that is, the lower, is plunged in a vessel of water. It will, however, be necessary to remove the wa.

ter from time to time, and to renew the base of the submerged scion by cutting off its extremity.

" The stock is sometimes headed down immediately after the operation, in which case, particular care must be taken to leave a bud or a shoot above the incision, in order to attract the sap to the place where the operation was performed. Sometimes, however, the stock is not headed down till after its union with the scion is completed.

" When the plant operated on is small, and the scion of a delicate species, the plant should be covered with a bell-glass to prevent too great transpiration of the leaves. The air in the interior must be occasionally renewed, as, without this attention, it would, by the evaporation of the water, be rendered too humid. If the diameter of the scion be less than that of the stock, the operation must of course be different from the preceding. In such a case, the incisions must be limited simply to two longitudinal ones of equal dimensions, one on the scion, the other on the stock. This is the easiest and the most natural mode, and also the most favorable for giving solidity to the graft.''

This mode of grafting is, we think, particularly applicable to oranges, lemons, &c., and these plants, engrafted by any of the ordinary methods, that will admit a portion of the scions being left long enough to be inserted into a phial or cup of water, will facilitate the operation. Some cultivators practise this mode of engrafting in this country: and a variety of it may be noticed as practised by that intelligent and indefatigable botanist, Mr Murray, of Glasgow, who substitutes for the water a potato or turnip, into which he inserts the bottom end of the scion. Some propagators have recommended inserting the lower end of the scion into the mould of a pot, kept at a proper degree of heat and moisture; and in some cases where it has been practised, the scion has rooted in the mould, and where such has occurred, the part below the union of the graft has been cut off, and has consequently produced a perfect plant, giving thus two plants instead of one. Instances have also occurred of the scion rooting into the water, and in like manner producing a plant. It may be mentioned as a necessary precaution in the above method of grafting, that to prevent too rapid evaporation, produced either by the sun or winds, a cap of stout paper or parchment has been recommended, which may be fixed a little below the part operated on, and so contrived as to enclose the whole of the upper part of the stock.

This precaution becomes particularly necessary when the operation is performed in the open air, and particularly in the case of resinous or gummy trees.

Of the plants which belong to those departments, which are propagated by these methods, may be enumerated the families of *Camellia* and *Citrus*, the varieties of which are generally propagated by the two latter methods, as are some species of *Daphne*, *Berberis fascicularis*, and various others. Sometimes grafting is performed on the roots of some rare plants, as is the case of *Pœnia papavericia* which is often grafted on pieces of the roots of *Pœnia moutan*.

Experienced operators propagate plants by these means with much success, and indeed the idea of increasing the size of a *Camellia*, for example, to an almost unlimited extent, by inarching very large branches, or, in some cases, entire plants upon others of greater size appears to be perfectly practicable. As the size of these plants adds to their value, and as they are several years before they acquire a large size, however well they may be cultivated, this mode of increasing them certainly deserves to be more generally adopted. I possess a plant which has above thirty different varieties growing upon it. Large specimens of Camellias, and of several other plants, are more likely to be quickly attained by a process of this kind than by any other. The precise season of performing the above operations on exotic plants, will always be governed by the state of the wood on the plants, and by no stated period of the season. When the wood or buds are in a fit state, then the operation should be proceeded with.

Art. XII. — *Miscellaneous Articles.*

Preservation of Peach Trees. — Different writers recommend a variety of methods of preserving peach trees against an insect, a fly, technically called *Ægeria exitivia*. This fly which is blue, and resembles a wasp, attacks peach trees the fore part of July, and continues its depredations till the middle of September. H. B. of Drayton, Ohio, in a communication for the American Farmer, in recommending a remedy against the ravages of this insect, states as follows:

"Early in the month of July, with a hoe, I clean away the earth from about my trees, in size and shape like a common wash bowl.

The excavation being about three inches deep next the tree, and six or eight inches in diamater. I then fill up the hollow with common wood ashes, and raise an embankment about the tree, also about the size of a common wash basin inverted; and have never yet known the insect to penetrate this embankment of ashes to the injury of my trees. I have never discovered any injury to result from the caustic nature of the ashes, and always take the precaution in the fall, say October, to remove the ashes, and mix them with the surrounding earth, drawing up fresh earth to the tree to supply the place of the ashes."

Apples and Peaches are valuable food for swine. The *Genesee Farmer* states that "within a few days past, we have seen hogs that have had nothing but swill and the fruit that fell from the trees so fat that we do not believe they could raise a trot except in the greatest extremity."

Garlick. — A writer in a Philadelphia paper stated that when the *fall fever* raged violently in the neighborhood of a canal, then in a state of progress, numbers of the workmen engaged on it eat plentifully of garlick, and wholly escaped, while those who abstained from the use of this article were severely afflicted with the disorder.

Strawberries. — I have been induced to make the present communication, from having been informed by a young man from near Salem, of the management of a bed in his father's garden, which he planted about twenty years ago, and which still continues very productive. It contains about two square perches, and the present season twenty quarts were gathered in a morning, and strawberries measuring three inches and three fourths round were frequently found. The manner in which this bed has been managed, and made so productive, is, as soon as the fruit is all gathered, mow the vines close off, and cover the bed four or five inches with rotten wood, drawn fresh from the land, where old logs have been left to decay. The strawberry vines will shoot through this covering and there will be no farther labor necessary but to keep the running vines cut off to prevent their taking root; twelve inches square was the distance at which the plants of the above described bed were planted. — *Village Record.*

Horse Chesnut. — The following method of propagating this beautiful tree was communicated for the *N. E. Farmer*, vol. vii. p. 102, by Hon. O. Fiske, of Worcester.

For some years I took various means to obtain the vegetation of this nut, but without success. The last parcel I planted without effect I emptied on the grass until I was ready to institute some other scientific process. In planting them I accidentally and very fortunately left one. It was in leaf when I first discovered it. By a careful removal to a favorable soil it has become a fine bearing tree. All the rest perished as heretofore. Since this discovery I have not found the least difficulty, I endeavor to imitate nature in her planting the seeds of the forest.

Soon after the nuts are gathered, not allowing them to become dry, I make a slight excavation by the side of some bank in my garden, and spread them in, leveling them nearly with the surface. Care should be taken to lay the side from whence the root issues next to the earth. This posture gives the root a more speedy access to nourishment, and facilitates the exit of the stem. I then cover them with leaves or some light rubbish, and replace as much earth as is necessary to keep the covering in place. By the time the ground is ready to receive them in the spring, I find them sprouted without the loss of one in a hundred. To disengage them from the earth, after removing the covering I pass a stable-fork under the mass, and gently pry them up, taking out the nuts singly and carefully, to prevent breaking the long tender root, and transplant them in trenches. In this process I make the holes with a trowel deeper than the extent of the root. After partially filling them with light earth, I draw up the nut to within about an inch of the surface, leaving it just buried beneath it. I generally take them up the second year and cut off the tap root, that they may be removed with more ease and safety when large enough to be transplanted from the nursery.

This tree is peculiar in its process, taxing the patience of the cultivator in its early stages. The annual growth is finished about the last of June, when other trees are in their most vigorous progress. In the fifth season the stature is doubled. At this period it grows with the vigor and rapidity of other trees.

Odoriferous Substances offensive to Insects. — It is said that the common mint strewed among grain as it is mowed away in the

barn will preserve it from being injured from vermin. Camphor when kept among bed clothes, will keep away bed bugs and fleas. From these circumstances, together with the fact that we do not recollect of having seen plants strongly odoriferous injured by insects, we are led to conclude that farmers might be benefitted by turning their attention to the subject. — *N. Y. Farmer.*

Art. XIII. — *Gardener's Work for December.*

Should the season permit, you may perform any of the operations directed for last month, which are not completed. Carry out and spread manure, and trench the ground if not too hard frozen, which is intended for early crops, and if the soil be of a heavy and stiff nature, lay it up in ridges to receive the benefits of the winter frosts. Provide from the woods, &c. pea-sticks and bean-poles of suitable lengths and sizes; dress and point them that they may be in complete readiness when wanted; collect all your old sticks and pales, which are yet fit for use, and lay them with the new ones under the protection of some shed, to prevent their becoming rotten by wet weather. Be careful to shut frost out of the apartments in which you have stored your fruit for winter and spring use. Examine the fruit, which you have on shelves in cellars, once every ten days and take away such as are tainted. Repair decayed trellises, espaliers, &c. Early in this month, if not done before, place long dung, straw or long litter of some kind over such Chinese mulberry plants, and other trees and shrubs as might othorwise be injured or destroyed by the winter's frosts. "Some kinds of shrubs," says McMahon, "and young trees may require to have their tops matted round, or each to be completely enveloped in a coat of long straw, reaching from the ground to the top of the plant, and terminating there in a point, the whole assuming the form of a sugar loaf. The straw is to be supported by placing slender sticks in the earth round the shrub, the tops of which are to be tied together over it; a few willow twigs should be worked in between these sticks to prevent the straw from falling in, which, when laid on, is to be bound round by hay bands willows, or the like."

Art. XIV.—*Close of the Second Volume of the Horticultural Register.*

The second volume of the Horticultural Register terminating with the present number, the Conductors beg leave to state briefly their situation and prospects as regards this Periodical. Our expectations at the commencement of the work were not of a sanguine nature; we merely ventured to hope that the *Register*, in conjunction with other pursuits of a less pleasing, but more profitable description, might be worth the expense of time and money necessary to conduct and circulate a work of this description. In this hope, we have not been disappointed, and have derived from two years' experience, sufficient confidence in the eventual success of our undertaking to induce us to persevere with renewed exertions, to make our work useful as well as acceptable to the public in general, as well as that class in the community who are practically engaged in the occupation of Horticulture.

Our success, however, must in a great measure, if not altogether, depend on the aid which may be afforded us by correspondents, who are as well connoisseurs as amateurs in the science and art to which our publication is devoted. Our pages must be meeting places of many minds, or they will soon be destitute of that variety, which alone can give them either interest or utility. To those who have heretofore obliged us with communications for our *Horticultural Register*, we would now beg leave to tender our most grateful acknowledgments, and would earnestly solicit the continuance of their favors. Those who have not, but can communicate anything relating to Gardening, Husbandry, or Rural Economy, which may be of use to mankind in general, or cultivators in particular, are respectfully requested to forward their contributions for the *Horticultural Register*, to

Thomas G. Fessenden,
Joseph Breck.

An Index to the second volume of the *Horticultural Register*, will be printed and forwarded to subscribers, &c. with our next No.